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THE PSYCHOLOGY OF DAY DREAMS.

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Perhaps not the least difficult question in connection with the present topic is what mental states shall be included under the term day dreaming. The usual definition "as an idle exercise of the imagination during waking hours," by no means covers the material of the returns, which include nearly every form of mental reproduction from the hypnagogic state, with complete absence of voluntary control, through varying phases in which the initial idea or general trend of the images is voluntarily determined, up to a distinctly purposive picturing of the future with due attention to probable realization. There are, however, certain characteristics which are common to this entire series of phenomena, namely a withdrawal of the attention, more or less complete, from the external senses, and a greater or less degree of mental automatism. Fechner¹ considers that in so far as attention is withdrawn from the senses, their condition is precisely the same as in real sleep and "*vice versa* the whole sphere of the activity of inner representations may fall asleep." According to this view, the mental life oscillates between sleeping and waking and there are regions of the brain asleep even in waking states and the distinction between dreams and day dreams is merely one of degree. For convenience in classification, day dreaming may be tentatively defined as including all those reproductive and imaginative mental states in which there is a greater or less degree of automatism in the images which come before the mind. Its limits would be, on the one hand, the hypnagogic states which immediately precede sleep and on the other, states of purposive

¹G. T. Fechner: *Elemente der Psychophysik*. Leipzig, 1889, p. 440.

thinking in which the mind becomes so filled with the subject that its workings tend to become automatic. Some of those who answered the questions attempted definitions, a few specimens of which are here given.

F., 14. Day dreams are the thoughts and wishes which we imagine.

M., 15. Day dreams are dreams about things which are fancied and which have no real foundation.

F., 16. Day dreams are thoughts about what we want the most.

F., 16½. Day dreaming is simply the soul longing for something great.

F., 13. In day dreams, you first start out to think about one thing and then your mind wanders over many things which may or may not be connected with what you first start to think about. It is really going to sleep because you don't work with anything but your brain. You generally have day dreams when everything about you is quiet and you have nobody to talk to. You think, but you don't express your thoughts in words, its your brain that is holding a conversation.

The material for the present study was collected in response to a request contained in a syllabus on dreams.

"Ask all who can to write about their day dreams, what they are most often about, and describe one or more in detail; where and when they lapse to reverie most often, and if they enjoy it or think it wrong, etc."

469 papers were received from normal school pupils, ages averaging from seventeen to twenty-five. 980 from pupils in the graded schools of ages ranging from seven to sixteen years. 23 from adults and three contributions were received from those who had passed the age of ninety, making a total of 1,475 cases. Of these 535 were from girls and 445 from boys in the graded schools. The normal school material was chiefly from girls, and of the adults slightly over one half were men. Among the entire 1,475 cases there were five (3 m. and 2 f.) who stated positively that they never had day dreams but of these five one, a man of twenty-five, described a mental state which would be included in the broader definition of day dreaming and two others were children who were classed in grades with children several years younger.

The physical characteristics of day dreaming most frequently mentioned were psychic deafness and blindness and muscular relaxation, including that of the eyes. Many children give descriptions of individual instances of this psychic deafness. They fail to hear bells or signals, say that their minds were far away, that the teacher had to speak several times to attract their attention, and one boy graphically describes an occasion on which his teacher threw a piece of chalk at him "to wake him up." A girl of twenty-one writes: "Sometimes I am so interested in my dreams that I do not see or hear anything that is going on around me." Another, of seventeen: "There are times when I

am so far away that I am entirely unconscious of my surroundings until there is some loud noise or my name is called." The "far away" look of the eyes is repeatedly mentioned and is an external sign of day dreaming which children readily recognize. A child of twelve gives her observations on the difference between hard thinking and day dreaming in these words: "When you do your arithmetic you pucker up your forehead, but when you are day dreaming your eyes look way off." This relaxation of the eye muscles which allows the axes to become parallel, or according to Donders, actually divergent, is similar to that in actual sleep. Le Conte proved experimentally that in drowsiness and drunkenness the double images are due to divergence of the optic axes and recognizes this as the absolutely involuntary and passive state of the eye in distinction from the involuntary tonic contraction of the healthy waking state which holds the lines of regard parallel, and the voluntary state of convergence.¹ It seems probable that both of the involuntary states are represented in day dreaming, actual divergence of the axes probably being confined to those mental states which most nearly approach the hypnagogic while the "far away" look so often mentioned is due to parallel axes. Besides these cases of more or less complete muscular relaxation there is another class in which day dreaming is an accompaniment of physical activity of a monotonous or automatic character, as walking, sewing, driving, swinging in a hammock, rocking, practicing piano exercises, hoeing, washing dishes, etc. In a few cases bodily automatisms which took the form of an unconscious acting out of the dream were reported, while in others they were quite unconnected with the images of the dream. Mr. Lindley, in his study of the phenomena of mental effort, reached the tentative conclusion that "many automatisms represent processes for the production and maintenance of central nervous energy as well as for the production of the state of attention, and this seems to hold good for states of attention where the object is internal as well as for sensorial states."²

The conditions mentioned as favoring day dreaming were twilight, moonlight, solitude, soft music, sound of the waves or falling water or any monotonous sound which tends to fatigue the attention, listening to an uninteresting lecture, sermon or recitation, physical or mental fatigue watching an open fire and looking at a distant landscape. It will be noted that several of these conditions are those favorable for inducing hypnosis. In a large percentage of the cases day dreaming is

¹ J. Le Conte: *Sight*, New York, 1881.

² E. H. Lindley: *Motor Phenomena of Mental Effort*. *Am. Jour. of Psy.*, Vol. VII, July, 1896.

either directly associated with bodily or mental fatigue, or fatigue is suggested by the conditions mentioned. Many children name the later hours of the school session as the time for day dreaming and "bed time, before going to sleep" is a favorite hour for both children and adolescents. There are many indications that day dreaming is often the normal rest of the mind which takes refuge from monotony or fatigue of the attention by this method of relaxation. Voluntary attention is fatiguing even to adults and much more so to children whose control over the finer muscles is but partially developed. Binet¹ in his experiments on the effects of intellectual fatigue found that even for periods of work occupying less than fifteen minutes, there was relaxation of the eye muscles, and that for periods exceeding thirty minutes muscular effort, as tested by the ergograph, was diminished. Mosso² found that while in some instances the first effect of intellectual fatigue was to increase the energy of the muscles, it was followed by progressive enfeeblement.

Bound up with this question of fatigue is the relation of attention to day dreaming. Mosso considered in his experiments that attention was completely dispersed, when after an effort to make his mind a complete blank, images entirely uncontrolled by will trooped unbidden into his mind. But while this absolutely passive play of association is reported in a few cases, it is by no means the most typical form of day dreaming. From the teacher's point of view, the day dreaming pupil is certainly in a state of inattention, but in far the greater number of cases even voluntary attention is not wholly suspended, for the choice of subject is initially determined and if the subject of the dream becomes unpleasant it is usually changed or the dream is banished. Instead of complete dispersion of the attention, there is a withdrawal of it from the perception of outward things and a greater or less degree of concentration on the mental content. Usually this attention is of the passive sort but, even this is not always true, if in day dreaming are included those forms of story building which are worked out in logical sequence though possibly quite irrespective of their connection with facts. The tendency of day dreams to become more of the passive type is distinctly increased toward adolescence and danger of impairment of attention from over indulgence is clearly recognized. This is brought out in the opinions as to the rightness or wrongness of day dreaming which will be discussed later.

¹ A. Binet et V. Henri: *La Fatigue Intellectuelle*. Paris, 1898.

² Fatigue; A. Mosso, translated by M. and W. B. Drummond, London, 1904.

THE CONTENT OF DAY DREAMS AT DIFFERENT AGES.

In reading successively the papers furnished by the different school grades the change and increase in variety of content was very noticeable and there were a sufficient number of papers from the same grade in different localities to bring out differences fairly well. The dreams of the youngest children who could write (7 to 8 yrs.) were almost entirely of play and good times with a sprinkling of the fairy story type of dream. Memory images are very prominent and the chief imaginative alteration consists in making the dreamer's self the chief personage of the dream. The particular plays and ideas of a good time vary with the environment, as all classes of children from the rich to the extremely poor are included, but are reducible to a few fundamental interests, namely, plays which involve motor activities and out of door life, nature interests, especially in connection with animals, and eating. The plays and games of boys and girls show some divergence but out of door life and activity figure largely in both. Nature interests were especially noticeable in the returns from the Worcester schools and showed a greater variety than in returns from other localities. Images of good things to eat play quite a large part in the consciousness of both boys and girls, figuring in the fairy stories, picnics, excursions, birthday parties and Thanksgiving celebrations as well as by themselves. The eatables oftenest mentioned were candy, ice cream, cake and fruit of various kinds. In the returns from very poor children these dreams of eating were pitifully prominent and evidently affected by the physical conditions of ill nourished bodies, though the interest seems to be a perfectly normal one for children of all classes. The effect of insufficient nutrition on mental states is further brought out in some material¹ from Polish peasant children in which the questions "what is happiness" and "what is your greatest wish" were asked. "To have enough to eat," "never to be hungry," "to have enough bread," were the typical answers. For girls from eight to ten, the fairy tale form of day dream predominates over all others. It appears to be a mental device for compassing all desires, and actual experiences and possibilities are often mingled indiscriminately with the wildest impossibilities. Nearly all dream of being rich and having every desire gratified and the dream of being a princess and living in a palace "with a piano in every room" and having unlimited silk dresses and jewels may be mixed with the wish "to have enough good food every day." The *deus ex machina* in these dreams is most frequently a fairy godmother, though wishing caps, a magic

¹Collected for the University by Madame Anna Goudzinska, of Kiev.

lamp or ring also figure. With boys of this age, the fairy story dream is less common and the form differs from that among girls. An interesting example of this occurred in a grade where the children were evidently all familiar with the story of Aladdin's lamp and the magic carpet. Nearly all of these had day dreams of flying or being transported through the air. Nearly all the girls had preserved the original forms of the stories with slight alterations, but the boys dreamed of all sorts of wonderful flying machines, sometimes mentioning the rate per hour, of trips in a balloon or by means of mechanical wings, of which they were in some cases the inventors. The desire for riches, while quite as wide-spread among boys as among girls, seems to demand a more logical explanation of its origin than that furnished by a fairy godmother. Dreams of finding money in amounts varying from fifty cents to five million dollars occur or the dream may be projected into the future and acquiring a fortune by possible or impossible means may be imagined, but however improbable the dream there is usually an attempt at logical consistency in it. Typical examples of these dreams are the following:

M., 9. Once I dreamed of finding a fifty-dollar gold piece. The first thing I bought was a bicycle and a riding suit for thirty dollars. And the other twenty dollars I gave to my mother.

F., 10. One of my day dreams was that I could live in a lovely castle. Eat good food, fruit, and vegetables. And be a fairy and have a wand. I could have a hundred houses full of \$20. dollar bills. And ride in a lovely diamond flower team. Have as many dolls as I would wish. And have doll carriages dressed in silk. It would be summer all the time. I could have white silk dresses, pink, blue and bright gay colors. I could have as many boys and girls to play with me. And I could have story books.

M., 9. Once I have thought that when I am a man I should like to be a millionaire and have a house with green grass as far as I could see. And a hundred horses, fine runners. And every day go out on some lake on a canoe and have a man to take care of a canoe better than anybody else. And the best horses in the world and all the things I could think of, I could have.

F., 10. I want to be a king's wife and live in a large castle. And have a great many rooms and in each a nice piano. And have a long silk robe of red, pink and many other colors. And have a Morris-rocking-chair with diamonds and rubies.

These childish dreams of wealth rarely show traces of the commercial instinct. It is always a means rather than an end, and children in whom the commercial instinct is strong are apt to have a much less imaginative type of day dream. They dream, but their mental images are much more closely related to facts. One boy of ten dreamed of playing marbles with another boy and that "he skun all his marbles." Good trades and means of actually earning money also figure in this type of day dreaming where images are usually furnished by the

immediate environment and undergo little change. Dreams of wealth characterize the reveries of children of all ages and adolescents, but the vision of wealth ceases to be of the fairy story type and the golden palaces, gorgeous jewels and dresses of the childish dreams fade and are replaced by those of a more materialistic character. Wealth is no longer imagined as the gift of a fairy godmother but as acquired through material agencies. Boys dream of acquiring a fortune by means of some wonderful invention, by going West and discovering a gold mine or by phenomenal success in business or speculation, but whatever the method, it is always a short and easy process. Girls dream of marrying millionaires, inheriting large fortunes from newly discovered relatives or of becoming famous actresses, musicians or authoresses and acquiring wealth along with fame. Frequently there is a strongly altruistic element in these dreams, especially during the early adolescent years. Hospitals are endowed, animal refuges established, public play grounds fitted up, fresh air work carried to an extent which quite dwarfs its present proportions, the poor are clothed and fed, and one young philanthropist would "give every boy a bicycle." The part which bicycles play in the consciousness of the American boy, and sometimes of girls, also, is astonishingly large. Those who do not possess them dream of having them, and those who have them dream of the good times they have had or expect to have. A boy of eleven writes:

"I dream most often of having hundreds of dollars and I go down and order two bicycles and have coaster brakes put on them. Then I bring down my brother and get the bicycles and order bicycle shoes and suits." Another, of fourteen: "I dream most of riding a bicycle. Once I dreamed that I and some other boys were racing. We had to go around the track three times and I won the race, the other boys coming in a few yards behind, and there were thousands of people looking on."

A few years later automobiles take the place of bicycles and the desire to own one is wide-spread though not as universal as in the case of the bicycle.

The following dream so completely sums up the various sports indicated in the "good times" of day dreams that it is given entire.

M., 14½. My day dream is if I had \$16,000,000 I would have a couple of red devil automobiles, a couple of air-ships, and a fine big mansion. I would have a couple of hundred nice carriage horses. I would hire a couple of hundred of men to take care of things and keep everything looking swell, and a swell big building for playing in-door-baseball in winter, Basket ball, Ping Pong, Rugby, and all kinds of sports and games. The first thing I would do before I ate my breakfast would be to go out and have a nice swim and then take a good pair of

Arabian horses and take myself out for a ride and then come back and eat a good breakfast and take one of my red-devil automobiles out for a good ride.

A more modest dream by a boy of the same age is "I would like to have a snug little cottage by the sea, and have a small yacht and few row boats and be able to go out in them whenever I please."

With the average healthy boy from ten to fifteen a large part of his day dreaming appears to be connected with sports and athletics. When tired or not interested in his school work he is apt to take refuge from *ennui* in visions of fishing, gunning, marbles, base ball, swimming, camping, boating. Even when these amusements have little likelihood of becoming realities, he still conjures up visions of what fun it would be if he could have them.

Base ball furnishes the content of many day dreams for boys from twelve to sixteen. The character of the dream varies from reviewing a recent game in all its details or anticipation of games in the near future to dreams of greatness as a famous pitcher in which the applause of admiring multitudes is vividly pictured. In some cases the dream is so vivid that incipient movements connected with the game are made.

M., 13. One day in school, I got to thinking what a fine time I would have playing ball after school. I dreamed that I was a fine pitcher in a team and the other boys were glad to let me pitch.

M., 13½. My dreams are mostly about ball games and I don't enjoy them very much because they make me think I am a whole lot and then when I wake up I'm nothing but a boy that can't play very well at all."

Dreams of hunting, fishing, swimming, being a cowboy and living on horseback and travelling in unexplored countries are characteristic throughout the teens. Some of these dreams are entirely unconnected with experience while in others the mental imagery is largely furnished by memories of vacation pleasures. The instinct itself appears to be widely spread and independent of environment, since it is apparently as strong in those who have never been outside a city as in those who have had opportunities for gratifying it. Very few girls have these dreams and they are usually in the form of wishing to be a boy so that such things were possible. Girls dream of travel as much as boys, but when details are given they are of comfortable, civilized travel and rarely include elements of adventure. Country life and animals also figure largely, but very few drift beyond the bounds of convention in their imaginings. The chief form in which any inclination toward adventure appeared was in the dream of being a red-cross nurse and going to China or the Philippines.

Dreams of fame and future greatness rarely occur before

adolescence. They vary from vague dreams of achieving honors in military or naval service, law, medicine, politics, music, acting, winning social or business success, to the attainment of some coveted school honor, having the highest works, gaining honors at graduation or being a leader in athletics. To the boy looking forward to college the highest pinnacle of fame seems often to be the attainment of captaincy of a football team. In children the desire for self recognition and aggrandizement demands immediate fulfillment and is rarely projected beyond the immediate future, while to the adolescent the vague future seems to possess special attraction and this distinction seems to hold throughout all dreams of the future. A child's vision of future pleasure is usually bounded by "next Saturday" or the nearest vacation, while the adolescent range seems to include past, present, and a boundless future. An apparent exception to this occurs in children's dreams of being grown up, which are very common, but when these are described in detail they almost all prove to be of the fairy story order and not a real looking forward into the future. The content of these adolescent dreams of future greatness are chiefly dependent upon environment and personal ambitions. Some are a mere expression of desires without expectation of fulfillment while others show evidence of being a distinct source of inspiration for purposive effort. Several writers state that when tired or discouraged they found in these dreams of future success encouragement and inspiration for further effort.

F., 13. My day dream is mostly about being an actor in an opera company. I dream of being a beautiful singer.

F., 13. Sometimes I dream of being an authoress and travel all over Europe and Asia, writing about the different peoples.

F., 15. My day dreams are of being a fine pianist and having people overwhelmed by the beauty of my playing.

M., 15. Dreams of becoming the champion ball player of the world.

M., 16. Dreams of military greatness and becoming a great general.

M., 19. I dream of future greatness. I do not think my day dreaming an evil because it places before me an ideal to strive for.

F., 18. I dream of becoming famous as a writer or actor or other impossible person.

M., 19. As I have always wanted to be a lawyer, my air castles have always been of palatial law offices, stump speeches. Congress and the inevitable White House vision looms in the background. Every boy dreams of the presidency. I see myself delivering a powerful speech before some large audience, with roars of applause interrupting. I think it a bad habit and wish I could stop it. It interferes with study and makes me dissatisfied with reality.

M., 18. Dreams of becoming a famous engineer and overcoming great difficulties in problems of construction of bridges and railroads. Never dreams except in leisure time and thinks that he works the harder because of these dreams.

From the age of twelve the influence of books upon the content of the day dream becomes increasingly important. With

the less imaginative the dream may be merely a reproduction, with slight alterations, of some book recently read, but in other cases the book simply furnishes the raw material out of which the fabric of the dream is woven. Girls put themselves in the place of their favorite heroines and adapt the material of romance, poetry or travels to their own uses. Their ideals of life are affected by what they read. Some of these dreams of the future are visions of beautiful and useful womanhood, but the trail of the Elsie books, with their morbid religiosity, and the influence of the Duchess and Rhoda Broughton is evident with unfortunate frequency. Boys dream of fighting indians, having hair breadth adventures on land and sea, being cowboys, pirates, brigands or national heroes as the case may be. Detective stories seem to acquire a peculiar charm at about the age of fourteen. The best of these do not apparently exercise any particular harmful influence and they appeal strongly to the logical instinct which seems to acquire prominence at about this age. But of the baneful effects of the worse class of this literature there is no doubt. Boys become familiar with the details of sin and crime before their moral ideas are fixed. The qualities of courage and hardihood involved in certain forms of crime appeal strongly to their imagination and many cases of juvenile crimes are directly traceable to literature of this sort. A more common effect is the lowering of ideals of manly honor and pure mindedness and the taste for emotional excitement which renders other literature tame and uninteresting and destroys interest in school work.

Another type of day dream common to both children and adolescents is the story making impulse which in some cases reveals a high type of creative imagination.¹ Some children regularly get themselves to sleep by making up stories, the same one sometimes being continued for several nights. The frequency of the continued story was, however, very small, forming in the present collection of data less than one per cent. of those mentioning the story form of dream.

F., 17. When eight or nine years old I used to sit at the window and make up stories about people who passed.

F., 18. Once when I was about thirteen years old, I was sitting in the twilight rocking the baby's cradle. I felt sad and lonely and singing softly to myself I made up a song about my husband being far across the ocean and never would he again come home to his loved ones; then it ended by his sudden home coming and joyful welcome.

F., 18. My day dreams are in the forms of imaginations in every way remote from my surroundings. They are somewhat in the form of a story whose incidents and scenes are continued from time to time. I have recorded some of my day dreams in the form of stories.

¹ The Continued Story, Mabel W. Learoyd. *Am. Jour. of Psy.*, Vol. VII, p. 86, 1895.

F., 18. My day dreams frequently deal with some adventure in which I am taking an active part. They are like stories and unfold themselves gradually. Since childhood I have been in the habit of putting myself to sleep with these dreams.

F., 19. My day dreams have always been stories. I used to get my little brother to sleep by telling my dreams. I still dream stories, and sometimes I dream of becoming famous.

F., 30. I have since a small child put myself to sleep nightly by spinning stories of adventure, romance, and travel in which I was the chief actor.

Closely akin to the story form of day dream is the imaginary conversation which is sometimes carried on with actual friends and acquaintances, sometimes with strangers casually seen or with characters in books or history, or in some cases with purely imaginary characters. Some novelists and dramatists have done much of their composing in this form, and these imaginary characters acquire a vivid personality. Lonely children sometimes develop this form of imaginary companionship. Some years ago Dr. G. Stanley Hall collected a number of cases of these imaginary companions and the records are given with considerable detail. All began at an early age, usually as soon as the child began to talk, and continued for several years, usually until the child began to go to school, or was otherwise brought into contact with children of the same age. One child, a boy, began to play with an imaginary "Gobby" as soon as he could talk and when nearly five "Gobby" was still his constant companion, but had grown up and had a wife and daughter, who were also playmates. Another child of about the same age had two imaginary playmates, one of whom was responsible for all his bad behavior, and the other played the part of his good genius. His probable behavior could often be inferred by noticing which of his imaginary companions was in evidence at the time. A few years ago in one of our popular magazines, there appeared some letters purporting to be written by a child of eleven to her husband whom she assumed to be somewhere in the world though she did not know him.¹ Whether these letters are, as they purport to be, the genuine productions of a child, or later reminiscences put into this form for literary effect, they picture with psychological truth the impulse of a lonely and imaginative child to find in an ideal world the sympathy and companionship which was lacking in the outward life.

Day Dreams of Love and Marriage are frequent after the age of seventeen, and occasionally earlier than this for girls. Sometimes these are vague dreams of a happy future with a shadowy partner who is to possess all virtues; sometimes there is a defi-

¹ A Child's Letters to Her Husband; Helen Watterson Moody. *Maclures*, Vol. XIV, p. 55.

nite picture of a future home and a house is planned and furnished in all details. With girls, unless they are definitely looking forward to marriage, the house planning and furnishing is usually of a luxurious character and without reference to probability. With boys this vision of a home is more apt to be controlled by the possibilities of achievement. Both boys and girls frankly acknowledge dreaming over their friends of the opposite sex, though the more elaborated romances are nearly always woven about comparative strangers or wholly from the stuff of which dreams are made. Many girls imagine themselves in a home with children to whom they give names and even picture the color of their eyes and hair, how they shall be dressed and educated, and the good times they shall have, while the shadowy partner of these joys is rarely visualized or very definitely characterized. A few samples of this type of day dream are given.

F., 18. I dream of being married and having a beautiful home of my own. I picture to myself the arrangement of the rooms. And the prettiest room in it will be a nursery furnished in pink and white and occupied by a curly headed little boy and girl who will be the dearest children in the world.

F., 17. My day dreams are usually about my future life: if I were married and had a home of my own and how cosy I would keep it.

F., 18. Dreams of certain friend, recalls all he has said in conversation, plans their future together, etc.

F., 19. My day dreams are mostly of a sentimental character.

F., 22. My day dreams are apt to be about some whom I have met or to whom I am greatly attracted. Sometimes I dream of being married and having a home. Sometimes I write imaginary letters.

F., 17. Sometimes I dream of meeting my future husband, falling in love with him, etc., and how I would love and care for my children.

F., 20. I do not have much time for dreaming now. I used to imagine the pleasure of having a little home in the country with mother. I know that I ought not to worry, so try to keep those thoughts out of my mind.

F., 19. I seldom have time to build castles in Spain but when I do I am not different from most southern girls, *i. e.*, my dreams are usually about a pretty fair specimen of a six foot three inch biped.

F., 20. I nearly always dream of myself as being very famous or at least holding an honored position. I have dreamed of being a teacher, a trained nurse, the head of some great medical institution, or a great speaker. I never dream of being a wife and mother. I cannot say why, but perhaps because I am not a pretty girl but decidedly homely.

F., 18. There are times occasionally when I think how nice it would be to be married and have a home of my own, and I think of the joy it would be to train up a little child and know that he was your own.

M., 17. My day dreams are sometimes of having a home, a loving wife and children and the means to keep them in comfort.

M., 23. As for day dreams I rarely indulge in them, don't have time. I fill my spare moments with thinking of my sweetheart.

M., 25. My day dreams are usually of her whom I hope to make my wife. I have visions of our future home life together and they are an inspiration to better living and more earnest effort.

M., 21. My day dreams are generally of what I am going to do in the future (of course a certain pretty girl plays an important part).

M., 25. My day dreams are generally made up of plans by means of which I hope to make my sweetheart my happy wife. They are not mere love dreams but contain all the essential elements that go to make professional life a success. My dreams are of reaching the highest point in my profession and making my wife happy.

M., 27. My chief day dream is of a beautiful home and an angelic wife.

The house planning form of day dream is of frequent occurrence even when not connected with dreams of love or marriage. There are many of both sexes who seem to have a sort of architectural instinct and find recreation in planning not only houses but grounds and even extend their fancies to landscape gardening and poultry raising.

A more prosaic form of dreaming is that in which the future occupation as a means of livelihood is the content of the dream. With the children of the poor, this is influenced by probability at an early age and the natural instincts for activity and out of door life find little play. Both boys and girls of eight or nine look forward to earning money as soon as the legal school years are completed. Those who are able to remain longer in school look forward to nearly every possible range of occupation. The number of occupations mentioned by boys is naturally greater than by girls, but the latter mention nearly every occupation open to women, including teaching, nursing, stenography, bookkeeping, dressmaking, millinery, work in a store, etc. In most cases there were pleasurable anticipations connected with these images of the future either because of expected enjoyment in the work itself or because of the prospect of earning money, often with desire to benefit others.

OPINIONS AS TO THE RIGHTNESS OR WRONGNESS OF DAY DREAMING.

The youngest children who wrote their day dreams (those of the third grade ranging in age from seven to nine) had evidently not thought of a moral aspect of day dreaming and either gave no answer to the question or expressed surprise at its being asked. One child answered: "No one ever told me it was wrong;" and two or three others thought that it was right if the things dreamed about were true but wrong if they were not. The papers of the children giving this answer showed rather a high degree of imaginative power and it would be interesting to know whether they ever told their dreams as facts. Several reminiscent papers mention the confusion of fact and fancy in childhood, and one girl of eighteen states that at the age of fourteen her day dreams were so vivid that she sometimes told them as facts. In all grades higher than the third,

day dreaming and inattention to lessons seem to have become inseparably associated and the answer is apt to be of the stereotyped form that day dreaming is wrong in school "because you ought to be attending to your lessons." But in addition to this reply many children appear to have done some independent thinking and give individual reasons for thinking the indulgence right or wrong. Day dreams are wrong if they are about bad or mean things, wrong "because they make you feel cross when you are interrupted," "because they make you dissatisfied with what you really have," "because it is wrong to wish for what you can't have," "because they waste time." They are *not* wrong "because they are natural," "because they can't be helped," "because they are about pleasant things." They are right because they make you happy, make you forget your troubles and worries and because "they rest the mind." Typical specimens of the answers given at different ages are given.

M., 11. I do not think it is right to let your minds wander off. Sometimes my mind will wander off. I will not know what I am doing. When I try to think, it is very hard to think. Sometimes it will be a long time before I can think what I am doing.

F., 13. Day dreams are wrong because they make you feel cross when you are aroused.

M., 11. "I think children should try to stop themselves from having day dreams because when you are dreaming like that in school you might miss a whole lot of lessons."

F., 12. Dreams oftenest of her brother who is dead. "My dream is wrong because my brother is dead and of course could not speak to me."

M., 12. I think it is one wrong thing nature lets us do because you might want to do something very bad and sit down and dream away your time.

M., 14. I do not think day dreams are right because the more you let your mind wander the more you want to be there and know you cant.

F., 15. I think day dreaming is wrong because I have not very much thinking power and I think they use up a good deal of it.

M., 15. Last year I would sit in school and think of everything but my lessons. I failed on the final examination.

M., 13. I think these dreams are wrong and one ought to guard against them for when you get bigger they will happen more often and then people will call you dreamy head.

F., 18. "I think they are wrong because they weaken the mind."

F., 20. I think those that I do not enjoy are wrong, since in them I often attribute less generosity than I should to those with whom they are connected.

F., 12½. I think too much day dreaming is not good for anybody but when there is nothing else to think about they are very good things to have for they keep the mind off dwelling on troubles.

F., 13. I do not think my dreams are wrong for I hardly ever think of anything wrong.

M., 13. I think them right because it don't hurt you any to think, but I think it does in another way, this is in letting your mind go where it wants to, not taking care of its own business.

F., 14. I don't think them wrong if they aint about things which could make anyone do wrong.

M., 14½. I think they are right unless you ought to be doing something else because then you are not thinking of tricks to do and they keep you out of mischief.

F., 12½. They always seem right to me because nothing happens like the things I dream.

M., 13. My dreams are always right because they are true and always happen or are happening when I dream.

F., 15½. I think these dreams are all right because they do not hurt anyone. They are just childish thoughts.

M., 12. I think they are more right than wrong because when you are sad you could sit down and dream and forget your sadness.

F., 14. They give your mind a rest a great many times, but sometimes they take your mind off what you ought to be doing.

F., 17. I do not think day dreaming wrong unless carried to excess, and furthermore I think it encourages me.

M., 18. I do not think them wrong when I have leisure for them. When tired I like to let my mind drift away because I think it refreshes me and stops all the worries I may have.

F., 18. I enjoy day dreaming very much but I sometimes think it is wrong for it is apt to make you dissatisfied with your present life.

F., 18. I do not think it wrong to day dream. It gives one something to have as an ideal object in life. He plans his life in many instances according to his day dreams. Even if he is never able to carry out all his dreams, they give him a great deal of pleasure.

F., 19. Day dreams are often an inspiration to higher things. They sometimes lead us on to try to reach our ideals.

M., 19. This day dreaming seemed to force itself upon me. I tried hard to resist it because I thought it injurious to my mind. The more I day dream the harder it is to come back to reality.

Only a small per cent. of children above the fifth grade (10 to 12 years) and adolescents say that day dreaming is right without qualifying the answer in some way. "It is not wrong unless" or "right when it does not interfere," etc. Many adolescents give an unqualified "wrong" in answer to the question basing their answer upon personal experience. Some state definitely that their power of attention has become so impaired that any work requiring effort or continuity of attention is difficult and irksome. Others, taking a broader view of the subject, consider that while excess is harmful, a moderate indulgence under proper conditions of time and place is restful to the mind and, in some cases, is an inspiration which tends to widen the mental horizon. The insidious tendency of day dreaming to usurp the place of other mental activities, is, however, very generally recognized by adolescents and adults, and those who most fully recognize its value as a normal rest and relaxation of the mind or the soil from which real creative work may spring, appreciate as well the danger that the servant may become the master and mental imagery control the mind even in opposition to an effort of will.

RELATION OF MENTAL IMAGES TO DAY DREAMING.

¹Galton was the first to call attention to the great difference in character of the mental images in different individuals, his investigations showing that while some persons can call up mental pictures which are distinct and vivid in color and outline, others are so deficient in this power that the term mental image appears to them a mere figure of speech. Galton found that philosophers and those accustomed to abstract thinking were apt to be deficient in this power while children were likely to possess it in a high degree. He also found the visualizing power to be somewhat higher in the female sex. Binet,² following to some extent Galton's method, has gone somewhat farther and made a study of the degree to which mental images are under the control of the will. In addition to his more general investigations, Binet had two subjects (sisters) whom he studied with great care through a series of years and in whom there was a marked difference of type. Both were able to call up visual images though one did so with greater effort, her images were less complete than those of the other and she had little power to alter or transform them. When, however, the images were allowed to arise spontaneously, as in the more passive forms of day dreaming, there was great variety and richness of imagery. The younger had exceedingly distinct memory images and possessed the power of voluntary control over them in a high degree, altering them quickly and easily in accordance with suggestions made by the experimenter. Her mental imagery was, however, almost entirely lacking in spontaneity, and she seemed unable to comprehend that these images could arise apart from an act of will. Both of these types were abundantly illustrated in the present material. Many children described the succession of mental images which passed through their minds, said that they came of themselves and could n't be helped. Some described day dreaming as "queer" or "funny" because you never could tell what was coming next. Others described their day dreams as a definite reproduction of scenes which they had especially enjoyed, or said that they had some favorite day dream which was voluntarily initiated. Still a third form of day dreaming in the broader sense is illustrated by the insistent imagery which appears even in opposition to the will, as in the case of a boy who said that he did n't enjoy day dreaming because the one which came oftenest was the repetition, with all its details, of an accident in which he had seen his uncle injured. Dramatic authors sometimes have trouble with

¹ Francis Galton: *Inquiries into the Human Faculty*, London, 1883.

² *L'Étude Expérimentale de l'Intelligence*; A. Binet, Paris, 1903.

their characters who persist in behaving in a way quite in opposition to the ideas of their creator. It is probable that these insistent ideas, which are usually connected either with some emotional shock or strain or are an accompaniment of over-fatigued states, approach very near to the line of morbidity. The relation of the will to day dreaming, as seen from the children's point of view, is of interest in this connection. Some say that day dreaming is not wrong because "you can't help it and what you can't help can't be wrong." Others say that they "can't help it sometimes" especially if tired or not interested. One boy says that he can't help it in school but is never troubled that way when the subject is base ball. Many state that they voluntarily initiate day dreams as a means of passing the time when lonely or uninterested or as a refuge from unpleasant actualities.

Relation of Day Dreaming to the Creative Imagination. There are a few adults who say that they never day dream but their papers show that they have restricted the meaning of the word to an exercise of the imagination which has no foundation in fact and which has been set aside as a childish mode of mental action. In the broader sense of the term it is probable that every normal mind exhibits certain automatisms in its reproductive activities, whether these be unaltered memory images or imaginative transformations and combinations which are a true creative activity. The richer the content of the mind, the greater the variety and spontaneity of the day dream and the greater the possibility that from its automatic working new and original combinations may arise. A psychological study of inventors would probably reveal the fact that many of the great inventions, though sought and worked over for years have come, at last, in a flash of insight through the automatic working of a mind filled with all the possibilities of the subject. Indeed we know this to have been the case with many scientific discoveries; and the biographies of artists, authors and scientists emphasize the fact that many of them have been day dreamers in boyhood, but always along with this has coexisted the fact of special interest and activity along some particular line, even though there were deficiencies in other directions. Herbert Spencer has recorded in his autobiography the fact he was, during his boyhood, "extremely prone to castle building" and that the habit continued even into mature life. This habit, while usually indulged in at bedtime, was frequently a course of annoying absent mindedness. In later years he wrote: "I believe that it is a general belief that castle building is detrimental; but I am by no means sure that this is so. In moderation I regard it as beneficial. It is a play of the constructive imagination, and without constructive imagination

there can be no high achievement. I believe that the love I then had for it arose from the spontaneous activity of powers which in future life became instrumental to higher things.¹ Many facts from the biographies of the world's leaders can be adduced in support of this opinion of Spencer's, and it may well be questioned whether too vigorous a pruning and repression of this play of the imagination is good pedagogy and whether a certain amount of this mental recreation is not necessary for mental growth. We know that music, art, and literature are much indebted to the great dreamers. But the mind must first be well stored and there must be energy for the realization of the dreams. It is never to the idle dreamer that the creative impulse comes. Mozart and Raphael were dreamers, but the harmonies of the one and the visions of the other belong to the world only because their dreams received embodiment by alliance with the drudgery of practical work. Napoleon and Mohammed were, each in his own way, dreamers, but they were also men of action. To Gautama, only after years of mental striving came the perfect rest and the vision of Nirvana. It is probable that to most artists the vision beautiful comes when the mind is passive and visual images rise unbidden, and literature owes much to that spontaneous play of imagery which is one of the characteristic forms of day dreaming. We do not need to recall that strange fragment of Coleridge's dream, *Kubla Khan* to realize that the brains of poets have sometimes worked in an automatic way. The day dream shades by almost imperceptible gradations through hypnogogic states to the dream of sleep, and, as those whose mental content is fullest are those who are apt to dream most, so with the day dream. Babies and idiots probably do not day dream as they have not a sufficient store of mental impressions for reproductive combinations. And among those whose lives are a monotonous round of toil in the bare struggle for existence, there are probably few dreams either of the day or night, because little material is furnished by the environment. Experience having bred few images for the fancy to work upon, release from bodily exertion is followed almost immediately by sleep. The effect of monotonous labor in dulling mental images, even in well stored mind, is noted by those who have spent years in Siberian prisons, even the images of home and friends being no longer recalled with clearness.²

Enjoyment of day dreaming in itself considered, except in those cases which are either morbid or tend to become so, is universal. The few who say that they do not enjoy it invari-

¹An Autobiography; Herbert Spencer. New York, 1904.

²Sixteen years in Siberia; Leo Deutsch. London, 1904.

ably give as a reason, conscientious scruples in regard to it as the factor which disturbs enjoyment. Children occasionally give some unpleasant consequence resulting from the habit as a reason for non-enjoyment but nevertheless do not discontinue the habit. Some say that day dreaming is their greatest pleasure and that they "could not live without it." Even sad dreams are enjoyed, the sadness being of the same nature as that evoked by seeing a tragedy on the stage or reading a book which may be thoroughly pleasurable even though the reader is reduced to tears. Emotions in day dreams of a normal type are all attuned to a low key, due, perhaps, to the relaxation of the muscular and vascular systems. Mosso¹ found experimentally that respiration tends to become periodic, and the pulse is lowered when attention begins to wander in states of drowsiness and in the dreamy states when attention is most completely dispersed. Twilight moods of reverie are typically characterized by the more subdued emotions and by moral and religious aspirations.² The mood is generally enjoyed and many say that it rests and helps them.

MORBID DAY DREAMING.

In cases of morbid grief and painful reverie instead of muscular relaxation there is sometimes a partial paralysis and rigidity of the muscles which is apparent in the face and hands, and in the character of the movements when the subject is aroused. These cases of painful reverie are reported chiefly by adults and are sharply distinguished from the enjoyable melancholy and "sweet sadness" of normal reveries. The content is not an imaginary situation, but some actual sorrow or trouble, and the tendency to morbidity is frequently recognized by the subject, and is shunned by an effort to keep the mind occupied with other things. In cases of physical weakness and ill health, these reveries tend toward, and in some cases become obsessive ideas against which the patient struggles in vain, whenever physical weakness prevents constant occupation. Scenes which crush the heart and paralyze effort are relived again and again and the will is powerless to banish these images which the patient may fully realize are leading to mental degeneration. In the entire number of day dreams collected from children only thirteen morbid cases occurred as regards content, though there were a number of cases in which, though there was no morbidity of content, day dreaming had become

¹Fatigue; A. Mosso, translated by M. and W. B. Drummond. London, 1904.

²Reactions to Light and Darkness; G. Stanley Hall and Theodate L. Smith, *Am. Jour. of Psy.*, Jan., 1903.

so excessive and so imperative a habit as to be regarded as a morbid development, very closely approaching the effects upon some hypnotic subjects in the loss of will power. Among the cases of morbid content two were of snakes. Both subjects were boys and in one case the cause was stated as due to a fright which had generated a morbid fear which resulted in images of the object dreaded whenever the mind was allowed to wander uncontrolled. In the other case, no information was given beyond the fact that day dreams were always of snakes and not enjoyed. Two children of thirteen and fourteen dreamed of dying and of the end of the world, and in one of these cases the tendency of the dream to become an imperative idea was marked. Two others habitually have sad day dreams and in both of these cases the health was reported below normal.

F., 12½. When they are nice and not frightening I enjoy them, but when they are horrible and frightening I do not like them.

F., 13. My dreams are most often different but about something sad.

M., 14. Day dreams chiefly of snakes of which he is afraid.

F., 13. When I am sewing or reading, I begin to think. I think and think about everything until I think about something I cannot get off my mind. One thing I dream about most is the end of the world. I wonder what will become of the people and how the earth will look and how dreadful it will be.

F., 14. I always think about the past and what if I should die.

F., 19. I am a victim of day dreams to a most annoying degree inasmuch that all efforts at resistance seem futile.

F., 39. Has met with great loss and sorrow; sits for hours in the same rigid attitude, with eyes fixed on vacancy. When aroused makes an effort to attend to things about her but if left alone sinks back into the same attitude. The images of her sorrow are constantly before her mind.

Sir James Crichton Browne¹ inclines to the view that all dreamy mental states have a morbid tendency. He acknowledges that in otherwise healthy minds no harmful consequences either mental or physical can be detected. He quotes various cases in connection with nervous and mental diseases, such as the dreamy state which sometimes forms a distinct aura in epilepsy and argues that men of genius known to have been subject to these dreamy states have suffered injury and been hampered in their work by them. As an extreme example he quotes the case of John Addington Symonds, the historian of the Renaissance, who suffered from a peculiar dreamy state which he thus describes. "Suddenly in church or in company, when I was reading and always I think when my muscles were at rest, I felt the approach of the mood. Irresistibly it took possession of my mind and will and lasted what seemed an eternity and disappeared in a series of rapid sensations which

¹ Dreamy Mental States. London Lancet, July 13, 1895.

resembled the waking from an anæsthetic influence. One reason I disliked this state was because I could not describe it to myself. It consisted in a gradual but swiftly progressing obliteration of space, time, sensation and the multitudinous factors of experience which seem to qualify what we are pleased to call ourself. At last nothing remained but a pure absolute self. The universe became without form and void of content." This description is very closely analogous to those states sometimes experienced in extreme fatigue when, for an instant, the mind seems to stop working and then goes on. It differs from unconsciousness in the fact that the blank is felt though no effort of memory can recall any mental content. Such states are merely results and symptoms of extreme fatigue, and unless the fatigue be sufficiently prolonged so that the nervous system loses its normal recuperative power, have apparently no more serious consequences than any other fatigue states. As in the 1,080 cases furnished by the graded schools all the children present wrote and with the few doubtful exceptions already noted day dreaming was reported by all the children with a very small percentage of morbid tendencies, there seems to be no ground for the assumption of any morbid connection, either mental or physical, with day dreaming *per se* more than with any other mental activity. If morbid cases are sought they are not difficult to find either in the form of morbidity of content or excessive indulgence, resulting in loss of will power, or cases in which both factors are combined. Féré¹ cites an interesting case of a man who had been from childhood an inveterate day dreamer to an extent which seriously affected his college course. He had pursued in his dreams a number of fictitious careers, military, marine, engineering, etc., which he seemed to prefer to real life. On leaving college, however, he engaged in an active business career, was happily married, successful in his undertakings, and having no time for day dreaming, seemed to have overcome the habit. A few years later, however, he began to suffer from insomnia and at the same time became dissatisfied in regard to his business and household affairs. He took refuge in his former imaginations, and though these were less absorbing than formerly they gradually became more persistent and finally acquired a fixed form in which he lived an ideal life in a chateau which he gradually elaborated. He acquired an imaginary wife and children and manifested less and less interest in his actual family. He continued nominally to conduct his business, which, however, was really managed by his staff of employees. Finally, on an occasion when some one accosted him by name and wished to

¹ Pathology of the Emotions; Ch. Féré. London, 1899.

confer with him on business he replied "He is at Chaville," the name of his imaginary chateau. This betrayal of himself in public, however, startled him into a realization of his actual condition, and fearing himself insane he was ready to do anything to banish his ideas, but found that they had become his masters and that against his will he constantly relapsed into his dreams. After three months of medical treatment, with strict supervision night and day to prevent any lapse into dreaming, he recovered. In this case visual images appear to have played an important rôle and the subject was of a strongly visual type. Whether in this case, the day dreaming was the cause or result of a diseased mental state is uncertain, but the suppression of the dreams was an important factor in the treatment which resulted in his recovery. As to the danger of day dreaming in a normal individual the following testimony of a man of twenty-six, who has carefully analyzed his own case, is of value. A. B. remembers that as early as the age of eight years he was a dreamer and says that his day dreaming has been the happiest part of his life but that "it has made it very hard, sometimes next to impossible, to pay attention to anything dull or abstract." All the will power I can bring to bear only serves to pull my mind back to what it ought to be busy with instead of keeping it steadily focused there. If one could dream up to the limit when one ought to dismiss it entirely and attend to the sterner things of life, I think day dreaming would be a veritable gift from the gods. But it is a curse when the habit becomes so fixed that a man can't pay attention to things which perchance have little natural interest for him."

The tendency of day dreaming to become habitual and excessive is, in the present study, most marked in those who have strong visual imaginations, yet the power is in itself a mental gift even though it sometimes prove a dangerous one. The great literary and religious dreamers have usually been men whose visual imagery was exceedingly vivid. Dante, Milton, Mohammed and Swedenborg were all endowed with all the power of visual imagination to an extraordinary degree. Many drugs owe their peculiar fascination to their power of intensifying sensory images and producing dreamy states. The Mexican drug, mescal, the use of which as a religious cult among the Southern Indian tribes of the United States has spread in spite of efforts to restrain it, has for its chief mental effect the production of colors and forms of wonderful variety and intensity. The muscular relaxation noted as characteristic of day dreaming is produced by all anaesthetics and where the oncoming of unconsciousness is not too sudden the mental states preceding are closely analogous to those of day dreaming. De Quincy, who more vividly than any other writer has

depicted the effects of opium, emphasizes the impairment of muscular power and corresponding weakness of will. The effect of nicotine in producing dreamy mental states is too well known to need description, and teachers report that boys who are addicted to cigarette smoking are invariably dreamers and defective in the power of voluntary attention.

In summarizing the results of the present study, attention is drawn to the following points:

Day dreaming appears to be a normal and well nigh universal phenomenon in children and adolescents and may continue throughout life. It is especially characteristic of the years of adolescence.

The content of the day dream is chiefly determined by environment, though its forms, like those of night dreams, are influenced by age, health and degree of mental development.

In early childhood, day dreams, except in the case of exceptionally imaginative children, are made up chiefly of memory images, actual experiences or stories being reproduced with little change. This tendency to reproduce memory images unchanged is evidenced not only by the day dreams reported, but is further illustrated by the insistency of children that stories told to them shall be repeated without any change in the details, a fact familiar to every one who has had experience in telling stories to children. The future of childhood is usually a definitely circumscribed and near future, and motor activities and eating figure largely in the content of childish dreams.

With the dawn of adolescence there is a marked increase in the variety and complexity of content and the range is greatly widened. Dreams of the future are oftenest of the vague future with boundless possibilities. The instinct emotions become an evident factor and dreams of love are characteristic at this age. Both altruistic and egoistic emotions are greatly intensified.

Though comparatively few day dreams were collected from adults, the content of these indicated a somewhat closer connection with actual life than those of childhood and adolescence. Dreams of the future were more in the form of plans with the possibility of accomplishment either for self or others.

The few cases of the day dreams of old age were almost entirely memories of the remote past and much time was spent in dreaming. Since day dreaming is closely associated with fatigue states this appears to be the result which might be expected from mental and physiological conditions.

Though environment exercises an important influence upon the development of the imagination and there is a possibility that it may be dwarfed and starved by repression, much is due to differences of mental endowment, and day dreaming in a

marked degree is often associated with high intellectual endowments and creative ability.

Day dreaming, like any other mental activity, may become excessive and pass over into pathological states, and in consequence of the fact that it is usually enjoyable and a passive state, it is peculiarly liable to this source of danger.

Sex differences are especially marked in day dreams, many of them being so characteristically masculine or feminine that the sex of the writer is unmistakable. While this is in part undoubtedly due to environment and conventional training, it also suggests that in the more automatic workings of the mind there may be a fruitful field for the investigation of the question of how far mental differences between men and women are innate and fundamental and how far they are due to artificial causes.